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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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7590 Randolph A. Smith Smith Patent Office 1901 Pennsylvania Ave., N.W. Suite 901 Washington, DC 20006-3433			EXAMINER BERNARD, DANIEL J	
			ART UNIT 4115	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/576,422

Applicant(s)

SO ET AL.

Examiner

Daniel J. Bernard

Art Unit

4115

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/86)
Paper No(s)/Mail Date 4/19/2006
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 13 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claims 13 and 18, the antecedent basis for “said recording medium” (as per claim 13) and “said field” (as per claim 18) has not been clearly set forth.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Komori et al. (US Pat. No. 6,046,937).

Regarding Claim 1, Komori et al. teaches a recording medium comprising a nonvolatile recording area for storing data (col. 4, lines 41-66), an update notification part for updating update information of the time of writing or erasing of data to the recording area and holding the update information, a host interface part for communicating with a data processing apparatus

(col. 4, lines 16-30 and 41-66), a controller for reading and writing data from and to the recording area and supplying the data in the recording area and the update information to the data processing apparatus via the host interface part, wherein update information in the update notification part can be read from the data processing apparatus and cannot be written by the data processing apparatus (from col. 4, line 63 to col. 5, line 3; col. 7, lines 28-38 and 46-53; Fig. 1, item 16).

Regarding Claim 2, Komori et al. teaches the invention substantially as claimed in Claim 1 above. Komori et al. further teaches the invention wherein update information in the update notification part is updated immediately before the data in the recording area is updated (col. 8, lines 6-10).

Regarding Claim 7, Komori et al. teaches that update information in the update notification part is inserted into a response value corresponding to a command issued from the host device (col. 6, lines 49-59).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komori et al. (US Pat. No. 6,046,937).

Regarding Claim 4, Komori et al. teaches that update information in the update notification part is updated immediately before any of pairs of data of the recording areas is updated (col. 8, lines 6-10). It is noted that Komori et al. does not specifically teach a plurality of pairs of the recording areas. However, Komori et al. broadly teaches a plurality of recording areas (col. 3, lines 25-44; from col. 4, line 61 to col. 5, line 3). Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to group the recording areas into pairs, as this constitutes an arbitrary design choice.

Regarding Claim 5, Komori et al. teaches that the recording areas and the corresponding update notification parts are provided and update information in each of the update notification

parts is updated immediately before data of the recording area respectively corresponding to the update information is updated (col. 8, lines 6-10; col. 3, lines 25-44). It is noted that Komori et al. does not specifically teach a plurality of pairs of the recording areas. However, Komori et al. broadly teaches a plurality of recording areas with corresponding update notification parts. Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to group the recording areas into pairs, as this constitutes an arbitrary design choice.

8. Claims 3, 6 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komori et al. (US Pat. No. 6,046,937) in view of Yoshino et al. (US Pub. No. 2002/0083282).

Regarding Claim 3, it is noted that Komori et al. does not specifically teach a medium-specific ID unique to each of the recording medium. However, Yoshino et al. teaches a medium-specific ID unique to each of the recording medium (§ [0095] lines 1-6). Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Komori et al. and Yoshino et al. because, as Yoshino et al. further teaches, the unique identifiers may be used with access control information, such as for content protection.

Regarding Claim 6, Komori et al. teaches that a recording area which can be arbitrarily read and written by the data processing apparatus and the update notification part corresponding to the recording area (col. 3, lines 25-44). It is noted that Komori et al. does not specifically teach a recording area which can be read and written when a specific authentication processing succeeds and the update notification part corresponding to the recording area. However, Yoshino et al. does teach a recording area which can be read and written when a specific authentication processing succeeds and the update notification part corresponding to the

recording area (¶ [0026] lines 1-6; [0029] lines 1-9). It is noted that Komori et al. and Yoshino et al. do not specifically teach pairs of recording areas. However, Komori et al. broadly teaches a plurality of recording areas (col. 3, lines 25-44; from col. 4, line 61 to col. 5, line 3). Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to group the recording areas into pairs, as this constitutes an arbitrary design choice. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Komori et al. and Yoshino et al. because, as Yoshino et al. further teaches, the authentication may be used with access control information, such as for content protection.

Regarding Claim 8, Komori et al. teaches that update information in the update notification part is updated immediately before data of the recording area is updated (col. 8, lines 6-10). It is noted that Komori et al. does not specifically teach this only for after initialization processing of the recording medium. However, Yoshino et al. does teach initialization processing of the recording medium (¶ [0283] lines 1-10; ¶ [0284] lines 1-7). Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Komori et al. and Yoshino et al. such that update information in the update notification part is updated only immediately before data of the recording area is first updated after initialization processing of the recording medium, so as to optimize update overhead under certain conditions.

Regarding Claim 9, Komori et al. teaches that update information in the update notification part makes update to the arbitrary timing which the data processing apparatus specifies possible (col. 6, line 63 through col. 7, line 14). It is noted that Komori et al. does not specifically teach this only for after initialization processing of the recording medium. However,

Yoshino et al. does teach initialization processing of the recording medium (§ [0283] lines 1-10; § [0284] lines 1-7). Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Komori et al. and Yoshino et al., so as to simplify update management in certain situations.

Regarding Claim 10, Komori et al. teaches that update information in the update notification part is updated (col. 7, lines 46-53). It is noted that Komori et al. does not specifically teach this for each time write-protection of the recording area is canceled. However, Yoshino et al. does teach the invention wherein update information in the update notification part may be updated when write-protection of the recording area is canceled (§ [198]; § [0201]; § [0264] lines 5-10). Hence, it would be obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Komori et al. and Yoshino et al., as updating update information would be as unnecessary for an area that is not write-protected as it would be necessary for an area that is write-protected.

Regarding Claim 11, Komori et al. teaches that the recording area includes a data storage area which stores one or more pieces of data (col. 3, lines 25-44; col. 4, line 61 through col. 5, line 3). It is noted that Komori et al. does not specifically teach a search information storage area which stores search information required when the data processing apparatus takes out each data stored in the data storage area, and at least one of the data storage areas has a field for storing update information in the update notification part. However, Yoshino et al. does teach a search information storage area which stores search information required when the data processing apparatus takes out each data stored in the data storage area, and at least one of the data storage areas has a field for storing update information in the update notification part (§ [0030] lines 1-

12; ¶ [0264] lines 1-10; ¶ [0265] lines 1-11). Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Komori et al. and Yoshino et al., so as to optimize the management of relevant information associated with data for processing.

Regarding Claim 12, Komori et al. teaches that the recording area includes a data storage area which stores one or more pieces of data (col. 3, lines 25-44; col. 4, line 61 through col. 5, line 3). It is noted that Komori et al. does not specifically teach search information storage area which stores search information required when the data processing apparatus takes out each data stored in the data storage area, and the search information storage area has the field for storing update information in the update notification part immediately after the data is updated. However, Yoshino et al. does teach search information storage area which stores search information required when the data processing apparatus takes out each data stored in the data storage area, and the search information storage area has the field for storing update information in the update notification part immediately after the data is updated (¶ [0030] lines 1-12; ¶ [0264] lines 1-10; ¶ [0265] lines 1-11). Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Komori et al. and Yoshino et al., so as to optimize the management of relevant information associated with data for processing.

9. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komori et al. (US Pat. No. 6,046,937) in view of Shibazaki et al. (US Pub. No. 2001/0014933).

Regarding Claim 13, Komori et al. broadly teaches a data processing apparatus comprising an input/output processor for performing input/output processing with a recording medium, a data processor for reading data of the recording medium via the input/output processor and temporarily storing the data, and performing a data processing on the basis of update information read from the recording medium in the update notification part when a recording medium includes a nonvolatile recording area for storing data (col. 4, lines 16-30 and 41-66), an update notification part for updating update information to the recording area at the time of writing or erasing of the data and holding the update information, a host interface part for communicating with a data processing apparatus, and a controller for reading and writing data from and to the recording area and supplying the data in the recording area and the update information to the data processing apparatus via the host interface part, wherein update information in the update notification part can be read from the data processing apparatus and cannot be written by the data processing apparatus (from col. 4, line 63 to col. 5, line 3; col. 7, lines 28-38 and 46-53; Fig. 1, item 16). It is noted that Komori et al. does not specifically teach a slot to which the recording medium is attached. However, Shibazaki et al. does teach a slot to which a recording medium is attached (§ [0062] lines 1-9). Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Komori et al. and Shibazaki et al., so as to have the added flexibility of removable nonvolatile memory storage.

Regarding Claim 14, Komori et al. broadly teaches a data processing method, wherein a recording medium includes: a nonvolatile recording area for storing data; an update notification part for holding update information of data, and a controller for reading and writing data from

and to the recording area and supplying the data in the recording area and the update information to a data processing apparatus, and the data processing apparatus includes a data processor for reading data of the recording medium attached to the slot and temporarily storing the data and performing a data processing on the basis of update information read from the recording medium in the update notification part, comprising the steps of making it possible for update information in the update notification part to be read from the data processing apparatus and impossible for update information to be written by the data processing apparatus, and updating the update information by the controller at the time of writing or erasing of data to the recording area (col. 4, lines 16-30 and 41-66; col. 7, lines 14-38 and 46-53). It is noted that Komori et al. does not specifically teach a slot to which the recording medium is attached. However, Shibazaki et al. does teach a slot to which a recording medium is attached (§ [0062] lines 1-9). Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Komori et al. and Shibazaki et al., so as to take advantage of the flexibility of removable nonvolatile memory storage.

10. Claims 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komori et al. (US Pat. No. 6,046,937) in view of Shibazaki et al. (US Pub. No. 2001/0014933) and further in view of Yoshino et al. (US Pub. No. 2002/0083282).

Regarding Claim 15, Komori et al. broadly teaches the step of reading update information in the update notification part and storing the update information in the data processor after the data processing to the recording medium is performed, and determining whether or not data of the recording area in the recording medium has been updated by reading update information in

the update notification part of the recording medium (col. 7, lines 14-38 and 46-53; col. 8, lines 12-45). It is noted that the teachings of Komori et al. and Shibazaki et al. do not specifically teach determining whether or not the update information corresponds to update information stored in the data processor when the data processing to the recording medium is started. However, Yoshino et al. does teach determining whether or not the update information corresponds to update information stored in the data processor when the data processing to the recording medium is started (§ [0030] lines 1-12; § [0095] lines 1-6). Hence, it would have been obvious to one of ordinary skill in the art to combine the teachings of Komori et al., Shibazaki et al. and Yoshino et al., so as to implement a more reliable management scheme with the given devices.

Regarding Claim 16, Komori et al. broadly teaches the step of reading update information in the update notification part and storing the update information in the data processor after write-protection to the recording medium is set (col. 7, lines 14-38 and 46-53; col. 8, lines 12-45). It is noted that the teachings of Komori et al. and Shibazaki et al. do not specifically teach determining whether or not a history that write-protection set in the recording medium has been canceled by reading update information in the update notification part of the recording medium and determining whether or not the update information corresponds to update information stored in the data processor exists when the data processing to the recording medium is started. However, Yoshino et al. does teach determining whether or not write-protection set in the recording medium has been canceled by reading update information in the update notification part of the recording medium and determining whether or not the update information corresponds to update information stored in the data processor exists when the data processing to

the recording medium is started (§ [0030] lines 1-12; § [0095] lines 1-6; § [198]; § [0201]; § [0264] lines 5-10). It is noted that the teachings of Komori et al., Shibazaki et al., and Yoshino et al. do not specifically teach a history of such, it would have been obvious to one of ordinary skill in the art at the time the invention was made that such a history could be determined within the invention of Yoshino et al. without significant changes, as its permission tables can each hold multiple permission flags (§§ [0264]-[0273]). Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Komori et al., Shibazaki et al., and Yoshino et al., so as to implement a more extensible management scheme with the given devices.

Regarding Claim 17, it is noted that the teachings of Komori et al. and Shibazaki et al. do not specifically teach determining whether or not data of the recording area in the recording medium has been updated after the data was recorded by determining whether or not update information of field in the recording area read from the recording medium corresponds to update information in the update notification part read from the recording medium. However, Yoshino et al. does teach determining whether or not data of the recording area in the recording medium has been updated after the data was recorded by determining whether or not update information of field in the recording area read from the recording medium corresponds to update information in the update notification part read from the recording medium (§ [0030] lines 1-12; § [0095] lines 1-6; § [0264] lines 1-10; § [0265] lines 1-11). Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Komori et al., Shibazaki et al., and Yoshino et al., so as to implement a more extensible management scheme with the given devices.

Regarding Claim 18, it is noted that Komori et al. and Shibazaki et al. do not specifically teach conforming value of the field immediately after writing to the field to value of the update notification part, when data is written to the recording medium, by reading update information in the update notification part after writing the whole of the data, and by calculating and recording update information immediately after writing in field in the recording area which stores the update information in the update notification part. However, Yoshino et al. does teach conforming value of the field immediately after writing to the field to value of the update notification part, when data is written to the recording medium, by reading update information in the update notification part after writing the whole of the data, and by calculating and recording update information immediately after writing in field in the recording area which stores the update information in the update notification part (¶ [0030] lines 1-12; ¶ [0095] lines 1-6; ¶ [0264] lines 1-10; ¶ [0265] lines 1-11; ¶ [0296] lines 1-9). Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Komori et al., Shibazaki et al., and Yoshino et al., so as to implement a more consistent management scheme with the given devices.

Regarding Claim 19, it is noted that the teachings of Komori et al. and Shibazaki et al. do not specifically teach comparing update information in the update notification part before reading of data from the recording medium to update information in the update notification part after reading of data; confirming whether or not above both update information correspond to each other, and continuing processing in the case of correspondence, and if not in the case of correspondence, performing an error processing or retry processing. However, Yoshino et al. does teach comparing update information in the update notification part before reading of data

from the recording medium to update information in the update notification part after reading of data, confirming whether or not above both update information correspond to each other, and continuing processing in the case of correspondence, and if not in the case of correspondence, performing an error processing or retry processing (§ [0030] lines 1-12; § [0095] lines 1-6; § [0264] lines 1-10; § [0265] lines 1-11; § [0296] lines 1-11). Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Komori et al., Shibazaki et al., and Yoshino et al., so as to implement a more reliable management scheme with the given devices.

Regarding Claim 20, it is noted that Komori et al. and Shibazaki et al. do not specifically teach comparing update information in the update notification part before writing of data from the recording medium to update information in the update notification part after writing of data, confirming whether or not above both update information correspond to each other, and performing error processing or retry processing in the case of correspondence, and if not in the case of correspondence, continuing processing. However, Yoshino et al. does teach comparing update information in the update notification part before writing of data from the recording medium to update information in the update notification part after writing of data, confirming whether or not above both update information correspond to each other, and performing error processing or retry processing in the case of correspondence, and if not in the case of correspondence, continuing processing (§ [0030] lines 1-12; § [0095] lines 1-6; § [0264] lines 1-10; § [0265] lines 1-11; § [0296] lines 1-11). Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Komori et

al., Shibazaki et al., and Yoshino et al., so as to implement a more robust management scheme with the given devices.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yuasa et al. (US Pub. No. 2002/0184457) also discloses a large part of the claimed subject matter herein.

Geiger et al. (US Pub. No. 2003/0061457) goes into further detail in disclosing response values with update information and histories of similar information.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Bernard, whose telephone number is (571) 270-7840. The examiner can normally be reached on Monday through Thursday and alternate Fridays, 9:00 AM - 5:00 PM, Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joe H. Cheng can be reached on (571) 272-4433. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

D.B.
Examiner

/Joe H Cheng/
Supervisory Patent Examiner
Art Unit 4115